

32

CLAIMS

1. A container holding device comprising:

a container holding member that holds a container, wherein the container can be detachably attached to the container holding member, includes a soft, bag-shaped member that stores contents, and shrinks as external pressure is applied or internal pressure reduces, the container holding member capable of moving between a first position that is a position at which the container is attached to or detached from the container holding member and a second position that is a position at which the contents of the container can be discharged;

a moving unit that moves the container holding member between the first position and the second position; and

an external pressurizing unit that applies external pressure to the bag-shaped member at least while the container holding member is at the first position and the second position so that the bag-shaped member shrinks when the contents are being discharged, wherein the external pressurizing unit applies a lower pressure to the bag-shaped member when the container holding member is at the first position than when the container holding member is at the second position.

20

2. The container holding device according to claim 1, wherein the external pressurizing unit includes an arrangement that changes the pressure applied to the bag-shaped member in conjunction with the movement of the container holding member between the first position and the second position.

25

3. The container holding device according to claim 1, wherein the external pressurizing unit includes an arrangement that moves the external pressurizing unit, when the container holding member is at the first position, to a withdrawn position that is a position at which the external pressurizing unit does not cause obstruction while the container is being attached or detached.

4. The container holding device according to claim 1, wherein the external pressurizing unit includes an arrangement that moves the external pressurizing unit between a withdrawn position, which is a position at which the external pressurizing unit does not obstruct the bag-shaped member, and a pressurizing position at which the external pressurizing unit applies pressure to the bag-shaped member, in conjunction with the movement of the container holding member between the first position and the second position.

5. The container holding device according to claim 4, further comprising a supporting mechanism that supports the external pressurizing unit at the pressurizing position, and releases the external pressurizing unit when the container holding member is at the first position, so that the external pressurizing unit moves to the withdrawn position by its own weight.

6. The container holding device according to claim 3, wherein the

container holding member is a box that holds the container, and the external pressurizing unit has a part that protrudes outside the container holding member when the external pressurizing unit is at the withdrawn position.

5

7. The container holding device according to claim 1, wherein the external pressurizing unit includes an arrangement that applies pressure to two opposing sides of the bag-shaped member.

10 8. The container holding device according to claim 1, wherein the bag-shaped member includes a tapering part that gradually decreases in cross-sectional area towards an outlet of the container from where the contents are discharged, and the external pressurizing unit applies pressure at least to a part where the tapering part starts to taper.

15

9. The container holding device according to claim 1, wherein the bag-shaped member is provided with fold lines, and the external pressurizing unit applies pressure to the fold lines.

20 10. The container holding device according to claim 1, wherein the external pressurizing unit comprises:

a contact member having two ends, wherein one end of the contact member is rotatably attached to the container holding member and the other end contacts the bag-shaped member;

25 a pressing member that presses the contact member against the

container; and

a pressurizing mechanism that applies pressure to the contact member in a direction towards the container, but does not apply pressure to the contact member when the container holding member is
5 at the first position.

11. The container holding device according to claim 10, wherein the one end of the contact member is attached to the container holding member at a part near an outlet of the container from where the
10 contents are discharged.

12. The container holding device according to claim 10, wherein the pressing member is separable from the pressurizing mechanism and the contact member.
15

13. The container holding device according to claim 1, wherein the contents is toner that is used in an image forming apparatus.

14. A conveying device comprising:
20 a container holding part that includes
a container holding member that holds a container,
wherein the container can be detachably attached to the container holding member, includes a soft, bag-shaped member that stores contents, and shrinks as external pressure is applied or internal
25 pressure reduces, the container holding member capable of moving

between a first position that is a position at which the container is attached to or detached from the container holding member and a second position that is a position at which the contents of the container can be discharged;

- 5 a moving unit that moves the container holding member between the first position and the second position; and
- an external pressurizing unit that applies external pressure to the bag-shaped member at least while the container holding member is at the first position and the second position so that the
- 10 bag-shaped member shrinks when the contents are being discharged, wherein the external pressurizing unit applies a lower pressure to the bag-shaped member when the container holding member is at the first position than when the container holding member is at the second position;
- 15 a discharging unit that causes the contents to be discharged from an outlet of the container by causing the bag-shaped member to shrink by applying external pressure to the bag-shaped member or reducing internal pressure in the bag-shaped member; and
- a conveying member that conveys the contents discharged from
- 20 the outlet to another device.

15. An image forming apparatus that includes a developing device wherein toner adheres to a latent image formed on a latent image carrier so that the latent image is developed into a toner image, and
- 25 transfers the toner image to a recording material so as to form a visual

image, the image forming apparatus comprising:

a container holding part that includes

a container holding member that holds a container,

wherein the container can be detachably attached to the container

5 holding member, includes a soft, bag-shaped member, and shrinks as
external pressure is applied or internal pressure reduces, the container
holding member capable of moving between a first position that is a
position at which the container is attached to or detached from the
container holding member and a second position that is a position at
10 which the contents of the container can be discharged;

a moving unit that moves the container holding member
between the first position and the second position; and

an external pressurizing unit that applies external
pressure to the bag-shaped member at least while the container holding
15 member is at the first position and the second position so that the
bag-shaped member shrinks when the contents are being discharged,
wherein the external pressurizing unit applies a lower pressure to the
bag-shaped member when the container holding member is at the first
position than when the container holding member is at the second
20 position;

a discharging unit that causes the contents to be discharged
from an outlet of the container by causing the bag-shaped member to
shrink by applying external pressure to the bag-shaped member or
reducing internal pressure in the bag-shaped member; and

25 a conveying member that conveys the contents discharged from

the outlet to another device.

16. A method of fixing a container to a container holding device that includes a container holding member, wherein the container has a soft, bag-shaped member that stores contents, shrinks as external pressure is applied or internal pressure reduces, and can be detachably attached to the container holding member, the method comprising:

moving the container holding member to a first position that is a position at which the container is attached to or detached from the container holding member, from a second position that is a position at which the contents of the container can be discharged;

placing the container at the container holding member at the first position;

allowing the container to drop by its own weight until an outlet of the container is set where the contents are discharged;

moving the container holding member from the first position to the second position; and

increasing pressure that is applied to the bag-shaped member as the container holding member moves from the first position to the second position.